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Hideyuki Obata

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EXAMINER

LEE, BENNY T

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Please find below and/or attached an Office communication concerning this application or proceeding.



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ARTICLE 1, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

- ☒ This application has been examined ☒ Responsive to communication filed on 12 Nov 2003 ☐ This action is made final.

A shortened statutory period for response to this action is set to expire Three (3) month(s), 2 days from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited by Examiner, PTO-892. | 2. <input type="checkbox"/> Notice re Patent Drawing, PTO-948. |
| 3. <input checked="" type="checkbox"/> Notice of Art Cited by Applicant, PTO-1449. | 4. <input type="checkbox"/> Notice of Informal Patent Application, Form PTO-152 |
| 5. <input type="checkbox"/> Information on How to Effect Drawing Changes, PTO-1474. | 6. <input type="checkbox"/> _____ |

Part II SUMMARY OF ACTION

1. ☒ Claims 1, 2 are pending in the application.
Of the above, claims _____ are withdrawn from consideration.
2. ☐ Claims _____ have been cancelled.
3. ☐ Claims _____ are allowed.
4. ☒ Claims 1, 2 are rejected.
5. ☐ Claims _____ are objected to.
6. ☐ Claims _____ are subject to restriction or election requirement.
7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.
8. ☐ Formal drawings are required in response to this Office action.
9. ☐ The corrected or substitute drawings have been received on _____. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice re Patent Drawing, PTO-948).
10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on _____, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).
11. ☐ The proposed drawing correction, filed _____, has been ☐ approved; ☐ disapproved (see explanation).
12. ☒ Acknowledgement is made of the claim for priority under U.S.C. 119. The certified copy has ☒ been received ☐ not been received ☐ been filed in parent application, serial no. _____, filed on _____.
13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.
14. ☐ Other

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35 U.S.C. 112, first paragraph, requires the specification to be written in "full, clear, concise, and exact terms." The specification is replete with terms which are not clear, concise and exact. The specification should be revised carefully in order to comply with 35 U.S.C. 112, first paragraph. Examples of some unclear, inexact or verbose terms used in the specification are: In the replacement paragraph to page 1, line 6, 12th line therein and at page 8, line 8, note ^{that} ~~the~~ "to be swirled" needs rephrasing. In the replacement paragraph to page 1, line 20, second line therein, "their generating" should be rephrased as ⁻⁻ "their generation of --". Page 3, line 9, "making" should be ⁻⁻ "causing" after "spectrum" inserted should be ⁻⁻ "to occur" and the "should be deleted"; line 11, "to install" should be rephrased as -- "by installing --"; line 13, "the" should be rewritten as -- "it's --". In the replacement paragraph to page 3, line 17, 6th and 8th lines therein, "hardly" should be rewritten as ⁻⁻ "not". In the replacement paragraph to page 5, line 9, 11th line ~~the~~ therein, "the" should be deleted as being unnecessary.

The disclosure is objected to because of the following informalities: In the replacement paragraph to page 1, line 20, seventh line therein, note that -- level ⁻⁻ should follow ["] "output" for clarity of description. In the replacement paragraph to page 2, line 10 14th line therein and page 9, line 25, is "dBc" the correct parameter? In the replacement paragraph to page 3, line 17, fourth line therein note that a --, -- should follow "smaller" ; sixth line ~~the~~ therein, note that "incitingly" is vague in meaning and needs clarification. Page 5, line 1, note that "is declined" is vague in meaning and needs clarification. Page 6, line 20, note that -- OF THE INVENTION should follow ["] "DESCRIPTION" for clarity. In the replacement paragraph to page 6, line 21, 8th therein note that ~~the~~ (see FIG. 1(A))--

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should follow "3" for clarity of description. In the replacement paragraph to page 7, line 14, 8th line therein, note that – [see fig. 1(b)] – should follow "3" for clarity. Page 11, line 26 and page 13, line 7, note that "mountain form" is vague in meaning and needs clarification.

Appropriate correction is required.

The disclosure is objected to because of the following informalities: the following reference labels need description relative the specification description of the following figures: fig. 2, all reference labels therein; fig. 3 (frequency); fig. 4 (12, 14); fig. 6(14).

Appropriate correction is required.

The drawings are objected to because of the following: In figs. 7, 8, note that these drawing figures should be properly labeled as – PRIOR ART – or ⁻⁻Conventional art --. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application

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must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claims 1, 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, sixth paragraph, note that "as the magnetic flux density" along appears to be an incomplete recitation; last paragraph, note that it is unclear whether the parenthetical parameters (e.g. V, cm, etc) are intended to be positive features of the claimed invention; last paragraph also note that the definition of parameters (ra, ~~50~~⁵⁶) appear to be redundant in view of the earlier definitions thereof.

In claim 2, note that "the inner ends" lack strict antecedent basis.

The following claims have been found objectionable for reasons set forth below:

In claim 1, sixth paragraph first line therein, note that ⁻⁻said ⁻⁻should precede "radius rc" for clarity of description.

In claim 2, note that "formed" (l. 2) and ^{of}from (l. 4) should be rewritten as – provided ⁻⁻and ⁻⁻provide ⁻⁻, respectively for a proper characterization.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

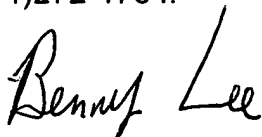
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 2 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by any one of Brett, Muller, Hinuma et al (cited by applicants'), Esterson and Yoshihara et al.

Each of the above cited references discloses a magnetron comprising: a cathode (1, 2, in Esterson et al; 1 in Hinuma et al; 11, 14 in Muller; 5 in Brett; 14 in fig. 1 of Yoshihara et al) each having a cylindrical outer surface; a plurality of anode vanes (V in Esterson et al; 2 in Hinuma et al, 6 in Muller; 6 in Brett, 15 in Yoshihara et al) extending from an anode shell (5 in Muller; 1 in Yoshihara et al, the cylindrical anode at col. 2ls. 44, 45 of Esterson et al; the cylindrical structure integral with vanes 6 in Brett; 31 in fig. 2 of Hinuma et al) and surround the cathode thereby providing an interaction space (A in Hinuma et al; 8 in Brett; the space at col. 1 ls. 44, 45 of Esterson; the interaction space at col. 1 ls. 45-47 in Muller; the resonant cavity at col. 8 l. 11 of Yoshihara et al) between the outer surface of the cathode and the inner end of respective anode vanes. Note that in Esterson et al and Brett, the cathodes therein are configured such that the distance of the interaction space between a central part of the cathode and the inner ends of the anodes is further than the corresponding distance of the interaction space at ends thereof (i.e. recess cathode 1 in Esterson; spherical cathode cavity 13 in Brett). Alternatively note that in Hinuma et al and Yoshihara et al, the farther distance in the interaction space is provided by central recessed portions in the anode vanes (i.e. the curved concave edge of the anode vanes in Hinuma et al; the circular edge (24) of the anode vanes in fig. 6 of Yoshihara et al). Finally, note that in Muller, that the farther distance is provided by either a tapered cathode (fig. 1) or tapered anodes (fig. 3) relative to the bottom of the magnetron.

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Any inquiry concerning this communication should be directed to Benny Lee at telephone number (571)272-1764.

A handwritten signature in cursive script that reads "Benny Lee". The signature is written in black ink and is positioned above the printed name and title.

Lee/ds

03/09/05

BENNY T. LEE
PRIMARY EXAMINER
ART UNIT 2817